

## TEKTRONIX

# P5205

The Tektronix P5205 is a 100 MHz high-voltage active differential oscilloscope probe designed to safely measure differential voltages up to  $\pm 1300$  V and common-mode voltages up to 1000 V RMS. Featuring the TekProbe BNC interface, it provides automatic scaling and power directly from compatible Tektronix oscilloscopes.

## SPECIFICATIONS

### General

|            |                                   |
|------------|-----------------------------------|
| Interfaces | TekProbe BNC (Level II) Interface |
|------------|-----------------------------------|

### Physical

|              |                                                                                                                    |
|--------------|--------------------------------------------------------------------------------------------------------------------|
| Power Supply | Powered via TekProbe BNC interface from compatible host instrument, or through optional 1103 external power supply |
|--------------|--------------------------------------------------------------------------------------------------------------------|

|                       |            |
|-----------------------|------------|
| Operating Temperature | 0 to 50 °C |
|-----------------------|------------|

|                    |                                        |
|--------------------|----------------------------------------|
| Dimensions (W×H×D) | 207 mm x 36 mm x 22 mm (probe head) mm |
|--------------------|----------------------------------------|

### Electrical Specifications

|           |         |
|-----------|---------|
| Bandwidth | 100 MHz |
|-----------|---------|

|           |        |
|-----------|--------|
| Rise Time | 3.5 ns |
|-----------|--------|

|                   |           |
|-------------------|-----------|
| Attenuation Ratio | 50x, 500x |
|-------------------|-----------|

|                  |           |
|------------------|-----------|
| DC Gain Accuracy | $\pm 3\%$ |
|------------------|-----------|

|                               |               |
|-------------------------------|---------------|
| Differential Input Resistance | 10 M $\Omega$ |
|-------------------------------|---------------|

|                                |      |
|--------------------------------|------|
| Differential Input Capacitance | 2 pF |
|--------------------------------|------|

|                            |              |
|----------------------------|--------------|
| Input Resistance to Ground | 5 M $\Omega$ |
|----------------------------|--------------|

|                             |      |
|-----------------------------|------|
| Input Capacitance to Ground | 4 pF |
|-----------------------------|------|

|                                           |                             |
|-------------------------------------------|-----------------------------|
| Maximum Differential Input Voltage (500x) | $\pm 1300$ V (DC + Peak AC) |
|-------------------------------------------|-----------------------------|

|                                          |                            |
|------------------------------------------|----------------------------|
| Maximum Differential Input Voltage (50x) | $\pm 130$ V (DC + Peak AC) |
|------------------------------------------|----------------------------|

|                                   |                   |
|-----------------------------------|-------------------|
| Maximum Common Mode Input Voltage | 1000 V RMS CAT II |
|-----------------------------------|-------------------|

|                                 |                   |
|---------------------------------|-------------------|
| Maximum Voltage to Earth Ground | 1000 V RMS CAT II |
|---------------------------------|-------------------|

|                                             |                  |
|---------------------------------------------|------------------|
| Common Mode Rejection Ratio (CMRR) at 60 Hz | 80 dB (10,000:1) |
|---------------------------------------------|------------------|

|                                               |                 |
|-----------------------------------------------|-----------------|
| Common Mode Rejection Ratio (CMRR) at 100 kHz | 60 dB (1,000:1) |
|-----------------------------------------------|-----------------|

|                                             |               |
|---------------------------------------------|---------------|
| Common Mode Rejection Ratio (CMRR) at 1 MHz | 50 dB (300:1) |
|---------------------------------------------|---------------|

|                                               |              |
|-----------------------------------------------|--------------|
| Common Mode Rejection Ratio (CMRR) at 100 MHz | 30 dB (30:1) |
|-----------------------------------------------|--------------|

|                                           |                                                  |
|-------------------------------------------|--------------------------------------------------|
| Output Termination Impedance Requirements | 50 $\Omega$ (Into TekProbe compatible BNC input) |
|-------------------------------------------|--------------------------------------------------|

**Physical and Mechanical**

|                    |       |
|--------------------|-------|
| Probe Cable Length | 1.5 m |
|--------------------|-------|

**Environmental and Safety Compliance**

|                                 |                        |
|---------------------------------|------------------------|
| Non-Operating Temperature Range | -40 °C to +75 °C       |
| Operating Altitude Limit        | 3,000 m (10,000 feet)  |
| Non-Operating Altitude Limit    | 15,240 m (50,000 feet) |

**Performance**

|                     |                  |
|---------------------|------------------|
| Propagation Delay   | 17 ns (typical)  |
| Linear Output Range | ±2.6 V into 50 Ω |

**Indicators**

|                     |                |
|---------------------|----------------|
| Overrange Indicator | Visual red LED |
|---------------------|----------------|

**Environmental**

|                        |                                                            |
|------------------------|------------------------------------------------------------|
| Operating Humidity     | Up to 90% RH at +30 °C, 75% RH at +40 °C, 45% RH at +50 °C |
| Non-operating Humidity | Up to 90% RH at +30 °C, 85% RH at +40 °C, 75% RH at +50 °C |

**Compliance & Safety**

|                       |                                                              |
|-----------------------|--------------------------------------------------------------|
| Safety Standards      | UL3111-1, EN61010-1, CAN/CSA C22.2 No. 1010.1-92, IEC61010-1 |
| Pollution Degree      | 2 (operating)                                                |
| Installation Category | CAT III 600 V, CAT II 1000 V                                 |

**Electrical Characteristics**

|                  |      |
|------------------|------|
| Output Impedance | 50 Ω |
| Signal Coupling  | DC   |

**Accessories**

|                               |                                                                                                                              |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Standard Accessories Included | 2 plunger hook clips, 2 plunger pincer clips, 2 plunger alligator clips, 2 extension cables, lead optimizer, adjustment tool |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|

**TECHNOLOGY**

Active Differential

**APPLICATIONS**

High-voltage differential measurements, motor drives, power supplies

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.